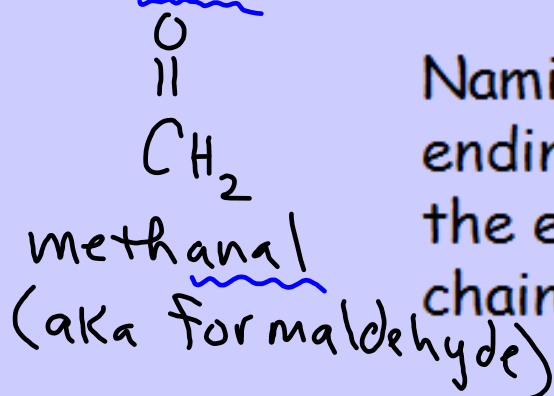
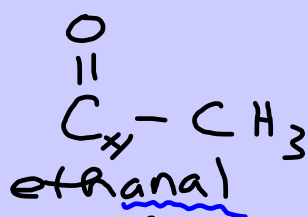


| Functional Groups                              |                        |                    |
|--|------------------------|--------------------|
| $-OH$  | hydroxy<br>or hydroxyl | family<br>alcohols |
| $-O-$  | oxy                    | ethers             |
| $\begin{array}{c} O \\    \\ C \end{array}$    | carbonyl               |                    |
| $-X$<br>(gp <sup>n</sup> )                     | halide<br>or halogen   | organic<br>halide  |
| $\begin{array}{c} O \\    \\ C-O- \end{array}$ | ester                  |                    |
| $\begin{array}{c} O \\    \\ C-N \end{array}$  | amide                  |                    |
| $-NH_2$<br>or a carbon                         | amino                  |                    |

## Aldehydes and Ketones

- The  $C=O$  group is called the "carbonyl group"
  - it is the functional group in both aldehydes and ketones

## Organic Chemistry

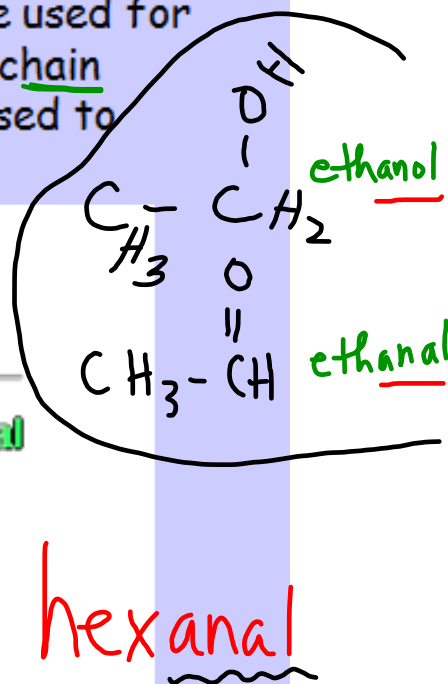
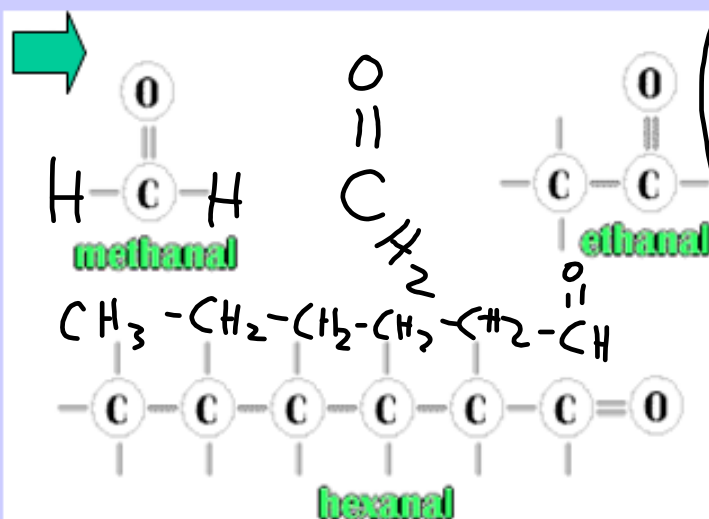
Aldehydes

Have a carbonyl functional group attached to the end of the chain.

Naming: an "AL" ending is added to the end of the parent chain name.

Small chain aldehydes have sharp irritating odors..like formaldehyde which was once used for preserving biological specimens. Longer chain aldehydes have flowery odors and are used to make perfumes.

Ex:



# Organic Chemistry

## Ketones

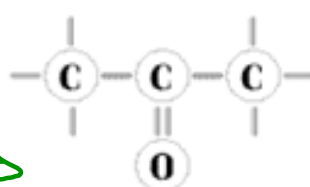
- Have a carbonyl functional group attached anywhere along the middle of the chain. (cannot be on the end)
- Naming: an "ONE" ending is added to the end of the parent chain name.

Propanone or acetone is the most common ketone. Where is acetone used?

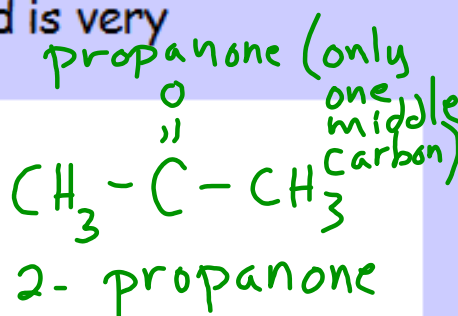
Acetone is used as a solvent and can sometimes be found in nail polish remover.

It is also used as a cleaner and is very flammable.

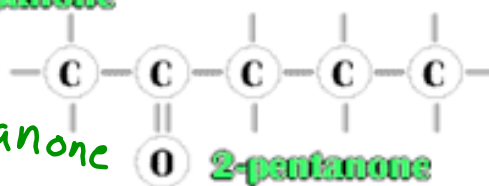
Ex:



propanone



a.k.a acetone

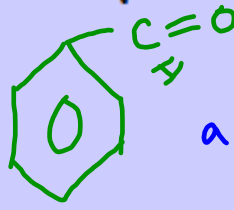


2-pentanone

2-pentanone

# Aldehydes and Ketones

- Benzaldehyde
- Cinnamaldehyde
- Vanillin



aka phenyl  
methanal

- Methanal (common:  
formaldehyde)
  - 40% in water is formalin, a  
preservative